

REMARKS/ARGUMENTS

This application has been carefully considered in light of the Final Office Action mailed May 13, 2008. A one month extension of time is submitted herewith.

Claims 1, 6, 7, 9, 12, 18, 21 and 22 have been rejected under 35 U.S.C. 103(a) as being obvious over US Patent 4,973,219 to Brickner et al when considered in light of the teachings of JP 07172317 to Yamashita. Claim 8 has been rejected over Brickner et al when considered in view of the teachings of US Patent 6,161,887 to Shiota.

Claims 19 and 23 have been rejected for obviousness over a combination of the teachings of Brickner et al in view of Yamashita when considering the additional structure disclosed in US Patent 5,915,906 to Lucking.

Claim 20 has been rejected over a combination of Brickner et al and Yamashita when considered with the teachings of Lucking and Shiota. Claims 24 and 25 have been rejected as being obvious over a combination of Brickner et al and Nordstrom, US Patent

4,043,285 when further considered in light of the teachings of Yamashita.

The Examiner has indicated that claims 3, 5, 10, 11 and 13 are directed to allowable subject matter if amended to include the limitation of the base claim and any intervening claims. In this respect, claim 3 has been amended to include the limitations of the base claim and, therefore, should now be in condition for formal allowance. All claims depending from claim 3 should also now be in condition for formal allowance, which action is solicited.

The reference to Brickner et al has been considered and claims 1 and 24 have been further amended to more clearly distinguish over the reference. In Brickner et al, a shuttle is provided that is not designed to permit X-Y motion in a plane **directly over each of the vertical tiers of cells** and the track system does not appear to have first and second tracks that transversely intersect with one another **directly above** the cells. With the present invention, the transfer units may selectively move in an "X-Y" motion directly above a plurality of vertical cells so that there is no need to move in large loops relative to the underlying cells. Rather, in Brickner et al, the track system is formed of loops with switching mechanisms provided

between the loops as described at column 7 beginning at line 38 of the reference. Further, as set forth at column 9, beginning at line 39 of Brickner, the shuttles are moved along monorails using four sets of wheels. Because the rail or track system of Brickner is a monorail system, the shuttles are not support by spaced pairs of parallel first and second tracks as claimed in claims 1 and 24 and the shuttles can not move in an X-Y plane directly over the cells as is possible with the transfer units of the present invention. Such X-Y movement is important to allow shuttle or transfer units to move efficiently above any of the cells with the ability to move about other units within the track system quickly, see paragraphs 0040, 0044 and 0061 of the current application.

As previously noted, in Brickner et al, if one shuttle approaches another along one of the monorails, the shuttles must either follow one another or move in reverse directions and there is no provision for lateral movement without moving in complete loops which results is wasted time and increased wear and tear on the system components and the shuttle.

The Examiner has recognized that Brickner et al does not disclose the first and second pairs of parallel tracks and thus relies on the teachings of Yamashita and states that it would be

obvious to modify Brickner et al to use intersecting "X-Y" tracks. It is respectfully submitted that it would not be obvious to try to make the combination suggested as the grid track system of Yamashita is not compatible to the monorail system of Brickner et al. The entire drive system, suspension system and switching system in Brickner is specific to the looped monorail system and could not be easily altered to accommodate an intersecting rail system. Further, as previously discussed in response to earlier rejections, the cross rails in Yamashita are not opened at the intersections but are closed by direction changing plates 6. In order to change the direction of movement of the ring rail 7, the ring rail of Yamashita must be supported by four plates 6 which all must be rotated in unison while carrying whatever weight is placed on the ring rail. Such a direction altering structure would not be obviously combined with the system of Brickner et al.

In view of the foregoing, it is respectfully submitted that claims 1, 6, 7, 9, 12, 18, 21 and 22 are distinguishable over Brickner et al and should therefore be in condition for formal allowance.

Reconsideration of the rejection of claims 19 and 23 over the combination of Brickner et al, Yamashita and Lucking is also

requested. As stated above, it is not believed that Brickner et al could be obviously modified to include the structure of Yamashita, therefore, even if one of ordinary skill in the art would use the elements 16 of Lucking the overall system of the present invention as claimed would not be anticipated or made obvious. Further, in claim 19, the guide arms have two guide walls that are oriented approximately perpendicularly wherein the lower portions are flared outwardly, and no such structure is shown in Lucking.

In view of the foregoing, adding the hoists of Shiota with the proposed combination of Brickner et al, Yamashita and Lucking would also not anticipate the invention set for in the combination of claims 20 and 1, 7, 18 and 19.

The combination rejection of claims 24 and 25 over Brickner et al and Nordstrom has also been considered, however, even if one were to combine the elements of the cell structure shown in Nordstrom with Brickner et al, the grid system would not permit the movement of transfer units that is possible and claimed with respect to the present invention. There is no X-Y grid rail system on the ship that permits a transfer unit to selectively move in an X-Y plane directly over a plurality of tiered storage cells, as is taught by the present invention and as claimed in

claim 24. As previously noted, the grid system of Brickner et al is based upon movement of shuttle along rail loops that transition in direction through curved switches provided at the ends of longitudinal runs of the rails. Such a system is not compatible within a hull of a ship or the like. The system of Nordstrom includes on board traveling bridge cranes 82 that are movable along tracks 80 that only extend longitudinally of a ship. There is no intersecting of tracks in an "X-Y" plane directly over vertical cells, as taught by the present invention. In view of the foregoing, reconsideration of the rejection of claim 24 is requested.

The combination of Brickner et al and the reference to Shiota et al has been considered however, even if one combines the teachings of Shiota with Brickner et al, the resulting structure would not allow the differences in operating principles as set forth above that are believed to clearly distinguish the present invention from Brickner et al alone. Therefore, reconsideration of the combination rejection of claim 8 is respectfully requested.

Thus, the cited art does not teach or disclose the structure and operable characteristics of the present invention nor provide

for the operable and structural advantages as discussed in the present application. The present invention provides an overhead system that provides for maximum use of overhead space and movement of transfer units relative to cells in which containers may be stacked. Further, one or more transfer vehicles may operate at the same time using the system of the present invention and can operate above any of the storage tiers defined by the cells of the present invention while moving directly above the cells in an "X-Y" plane. Additionally the present invention also provides guidance features for controlling the movement of the spreader beams and any containers carried thereby whenever the containers are elevated relative to the storage cells.

Favorable consideration and allowance of the claims is respectfully solicited. It is requested that this response be entered after final as placing the application in condition for allowance.

Respectfully Submitted,


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